

Claims:

1. (Currently Amended) A computer-implemented method for order matching

implemented over a network, comprising:

providing a filter specified by a user, wherein the filter ~~that~~ defines an arbitrarily-shaped region within at least four dimensions;

receiving, over said network, a buy order from a the user for an object having the at least four dimensions associated with said object, wherein the buy order includes the filter specified by the user that defines the arbitrarily-shaped region within the at least four dimensions;

receiving, over said network, a message to modify said buy order while said buy order is pending, wherein said message is received from a party associated with the buy order;

modifying said buy order in accordance with said message;

encoding user-preferences associated with at least one of the buy order or one of a plurality of sell orders;

searching with at least one computer, and in accordance with the filter specified by the user, an indexing tree that includes the plurality of sell orders for objects having said at least four dimensions and, in accordance with said searching, identifying only one or more sell orders that are within said arbitrarily-shaped region;

applying, with said at least one computer, characteristics of the one or more sell orders that are within said arbitrarily-shaped region and the encoded user preferences, to a quality function , and outputting, from the quality function, ~~that outputs~~ one or more

quality values for the one or more sell orders that are within said arbitrarily-shaped region to the user; and

matching searching, with said at least one computer, ~~for at least one match between said buy order to and the one or more~~ of the sell orders that are within said arbitrarily-shaped region in accordance with said one or more quality values.

2.-3. (Cancelled)

4. (Original) The method of claim 1, wherein said object is at least one of a group comprising goods and services.

5. (Original) The method of claim 1, wherein said object is a vehicle.

6. (Original) The method of claim 5, wherein said at least four dimensions for said vehicle comprises at least four dimensions from a group of dimensions comprising manufacturer, model, year, mileage, color, and accessories.

7. (Previously presented) The method of claim 1, further comprising:

receiving a message from said party to execute said buy order; and
automatically executing said buy order in accordance with said message.

8.-25. (Cancelled)

26. (Currently amended) A computer-implemented method for order matching implemented over a network, comprising:

providing a filter specified by a user, wherein the filter ~~that~~ defines an arbitrarily-shaped region within at least four dimensions;

receiving, over said network, a sell order from the a user for an object having the at least four dimensions associated with said object, wherein the sell order includes the filter specified by the user that defines the arbitrarily-shaped region within the at least four dimensions;

receiving, over said network, a message to modify said sell order while said sell order is pending, wherein said message is received from a party associated with the sell order;

modifying said sell order in accordance with said message;

encoding user-preferences associated with at least one of the sell order or one of a plurality of buy orders;

searching with at least one computer, and in accordance with the filter specified by the user, an indexing tree that includes the plurality of buy orders for objects having said at least four dimensions and, in accordance with said searching, identifying only one or more buy orders that are within said arbitrarily-shaped region;

applying, with said at least one computer, characteristics of the one or more buy orders that are within said arbitrarily-shaped region and the encoded user preferences, to a quality function, and outputting, from said quality function, ~~that outputs~~ one or more quality values for the one or more buy orders that are within said arbitrarily-shaped region to the user; and

matching ~~searching~~, with said at least one computer, ~~for at least one match~~
~~between~~ said sell order to ~~and the~~ one or more of the buy orders that are within said
arbitrarily-shaped region in accordance with said one or more quality values.

27. (Cancelled)